

### ***Remarks***

Claims 1-56 are pending in this application. Claims 49-56 are withdrawn from consideration as a result of a restriction requirement. In view of the foregoing amendments and the following remarks, reconsideration and allowance of all the rejected claims are requested.

### ***Allowable Subject Matter***

Applicants note with gratitude the Examiner's indication that claims 7-10, 13-24, 33-34 and 36-46 are allowable if rewritten in independent form. It appears that dependent claims 31 and 32 were inadvertently omitted from the listing of allowable claims since these claims recite features that are similar to allowable claims 7 and 8. Claims 18 and 42 are rewritten in independent form to include the features of base claims 1 and 27, respectively. Thus, claims 18-24 and 42-48 are in condition for allowance. Features of allowable claims 7 and of claim 31 are included in independent claims 1 and 27, respectively. Thus, claims 1-17, 25, and 26-41 are in condition for allowance.

### ***Information Disclosure Statement***

Applicants thank the Examiner for considering the references submitted in the Information Disclosure Statements filed on March 16, 2004, and March 23, 2004, as evidenced by the signed and initialed forms PTO-1449.

### ***Specification***

The disclosure is objected to for including typographical errors. Applicants have amended the specification and request this objection to be withdrawn.

### ***Rejection Under 35 U.S.C. § 103***

Claims 1-6, 11-12, 25-32, 35-36, and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (U.S. Patent No. 5,801,390) in view of Arai et al. (U.S. Patent No. 6,388,341). Applicants respectfully traverse this rejection on the following basis.

Independent claims 1 and 27 recite, among other things, wherein the alignment subsystem is arranged to determine a position of a non-periodic feature of the alignment

structure and wherein the non-periodic feature includes a transition from a first part of the alignment structure having a first periodicity to a second part of the alignment structure having a second periodicity. The feature that the non-periodic feature includes a transition from a first part of the alignment structure having a first periodicity to a second part of the alignment structure having a second periodicity was taken from corresponding allowable claim 7 and claim 31.

The examiner acknowledges that “Shiraishi does not expressly disclose determining a position of a non-periodic feature of the alignment system” (see page 3 of the March 18, 2005 office action) and relies on Arai et al. for disclosing this feature. Arai et al. appears to disclose a semiconductor device that includes alignment patterns with corresponding line patterns (see Fig. 5 and col. 11, lines 19-24), wherein the *entire* alignment pattern is located. Thus, Arai et al. is deficient at least because it does not teach or suggest an alignment subsystem that is arranged to *determine a position of a non-periodic feature* of the alignment structure, which is a portion of the alignment mark. Additionally, Arai et al. is deficient because it fails to disclose that the non-periodic feature includes a transition from a first part of the alignment structure having a first periodicity to a second part of the alignment structure having a second periodicity. Rather, Arai et al. discloses an alignment mark having patterns with a particular pitch and does not disclose a non-periodic feature in a transition from structures within the patterns.

In view of the foregoing differences between claims 1, 27 and the cited art, Applicants respectfully submit that these claims are not obvious under 35 USC 103, based on Shiraishi in view of Arai et al. Thus, claims 1-17, 25, and 26-41 are in condition for allowance.

Having addressed the foregoing rejection, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, the application is in condition for allowance. Notice to that effect is respectfully requested.

**Customer Number**  
**00909**

**Application Serial No.: 10/736,230**  
**Attorney Docket No.: 081468-0307255**  
**Reply and Amendment Under 37 C.F.R. §1.111**

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Dated: June 15, 2005

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Sean L. Ingram', with a long horizontal flourish extending to the right.

Sean L. Ingram  
Registration No.: 48,283

PILLSBURY WINTHROP SHAW PITTMAN LLP  
P.O. Box 1050  
McLean, Virginia 22102  
703-905-2000